ZnO Nanowires show Promise for Field Emitters

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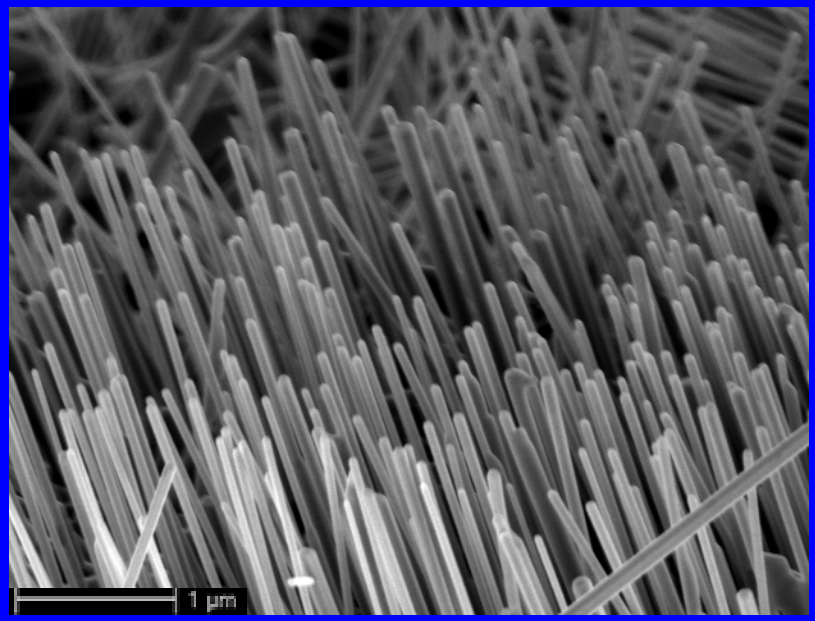
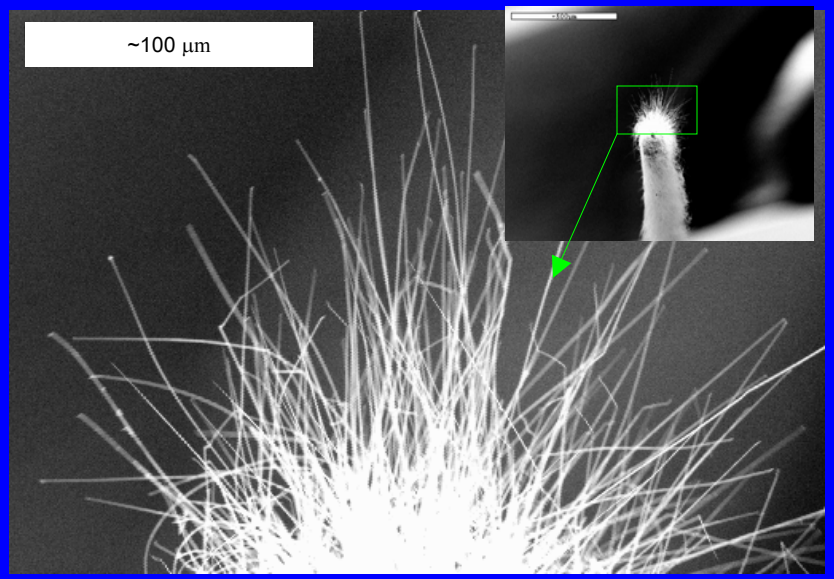
Nanowires with various compositions have attracted attention due to their potential in both nanoscale electronic and optoelectronic devices. The study of the physical and chemical properties of these 1-D nanowires will further the understanding of basic issues about dimensionality & space-confined transport phenomena. In particular, ZnO nanowires are promising candidates for application in these areas. Research by REU students include development of nanofabrication techniques for ZnO nanowires. The effects of various catalysts & growth temperatures on morphology have also been studied using scanning electron microscopy. Electron-field emission measured from ZnO nanowires suggest a great potential for these nanowires as field emitters.





REU students get Hands-on Experience!

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The unifying theme of this REU site is the application of microscopy and microanalysis to multidisciplinary research. The program involves >5 major science & engineering disciplines, with offered research projects covering a wide range of topics including materials science, physics, chemistry, geology, mechanical engineering, biophysics, and electrical & computer engineering.

All participants have co-authored publications, conf. presentations or project reports, or were acknowledged for contributions to the research projects in which they were involved. In 2004, 3 students gave oral presentations at the 26th Annual Symp. on Appl. Surf. Anal. and 15th Annual Symp. of Pacific NW Chapter of AVS Science & Technol. Society (June 2004, WA). These students also attended the Northwest Undergraduate Science Research Conference (April 2004, OR).